

REMARKS

By this Amendment, Applicant amends the specification in response to the Examiner's objections.

Claims 1-17 remain pending in the application.

Reexamination and reconsideration are respectfully requested in view of the following Remarks.

35 U.S.C. § 103

The Office Action rejects: claims 1, 4, 5, 11, 13 and 14 under 35 U.S.C. § 103 over Applicant's Admitted Prior Art (AAPA) in view of Cordingley et al. U.S. patent 6,181,728 ("Cordingley"); claims 2, 3, 6-8, 12, 15 and 16 under 35 U.S.C. § 103 over Applicant's Admitted Prior Art (AAPA) in view of Cordingley and further in view of Guerin et al. U.S. patent 5,251,057 ("Guerin"); claims 9, 10 and 17 under 35 U.S.C. § 103 over Applicant's Admitted Prior Art (AAPA) in view of Cordingley and further in view of Orino et al. U.S. patent 5,627,669 ("Orino").

Applicant traverses all of these rejections for at least the following reasons.

Claim 1

Among other things, the system of claim 1 includes a second splitter adapted to receive the light from the first splitter, to direct a first portion of the received light in a second direction, to direct a second portion of the received light toward the focusing diode, and to vary respective levels of the first and second portions of the received light in response to an applied control signal.

Applicant respectfully submits that neither the AAPA nor Cordingley nor any combination thereof discloses such a splitter.

The Office Action states that the AAPA discloses a second splitter (20), and then proceeds to ". . ." its way through the language of claim 1 that recites that the second splitter of claim 1 is adapted to vary respective levels of the first and second portions of the received light in response to an applied control signal.

The Office Action improperly completely ignores this plainly recited feature of claim 1. The Office Action fails to identify where such a feature is disclosed in the cited references, or to explain why or how one of skill in the art at the time the invention was made would have modified splitter 20 of the AAPA to include such a feature.

Applicant respectfully submits that neither the AAPA, nor Cordingley, nor any combination thereof discloses such a feature.

So no combination of the AAPA and Cordingley could ever produce the system of claim 1.

Furthermore, the system of claim 1 includes a controller adapted to receive the detection signal from the image sensor to determine an alignment state of the wafer, to control the stage so as to align and position the wafer, and to apply the control signal to the second splitter.

Applicant respectfully submits that neither the AAPA nor Cordingley nor any combination thereof discloses such a controller.

The Office Action states that the AAPA: *“fails to disclose a controller adapted to receive the detection signal from the second splitter and to vary the respective power levels of the first and second portions of light.”*

However, of course that is not all that the AAPA fails to disclose. It also fails to disclose a controller that is adapted to determine an alignment state of the wafer, to control the stage so as to align and position the wafer.

The Office Action improperly completely ignores this plainly recited feature of claim 1. The Office Action fails to identify where such features are disclosed in the cited references or explain why it would have been obvious to one of skill in the art at the time the invention was made to modify the AAPA to include such features.

Applicant respectfully submits that neither the AAPA, nor Cordingley, nor any combination thereof discloses such features.

So, again, no combination of the AAPA and Cordingley could ever produce the system of claim 1.

Meanwhile, the Office Action states that Cordingley discloses a controller “to adjust the input (1st portion of received light) to the polarization-modifying device (beam splitter) so as to cause the laser beam (2nd portion of received light) to be adjusted” citing Cordingley at col. 7, lines 5-9.

Applicant respectfully submits that: (1) this is not what is stated in Cordingley at col. 7, lines 5-9; (2) this is not what is recited in claim 1; and (3) Cordingley does not disclose a controller that is “adapted to receive the detection signal from the second splitter and to vary the respective power levels of the first and second portions of light.”

First, Cordingley at col. 7, lines 5-9 states:

wherein the controller is configured to adjust the input to 5
the polarization modifying device so as to cause the
polarization of the laser beam to be adjusted as a
function of the alignment of the structure to be pro-
cessed by the laser beam.

That is, Cordingley teaches that a controller 44 supplies a control signal to a control input of a “polarization modifying device” (liquid crystal variable retarder (LCVR) 24) to cause it to adjust the polarization of a received light, and to output light with the adjusted polarization. Accordingly: (1) LCVR 24 is not a “beam splitter” as mention in the Office Action (see FIG. 3); and (2) the “input” mentioned in the cited text is not a “1st portion of received light” but instead is a control signal.

Furthermore, claim 1 does not recite generally “adjust[ing] the input (1st portion of received light) to the polarization-modifying device (beam splitter) so as to cause the laser beam (2nd portion of received light) to be adjusted.” Instead, it recites “adapted to receive the detection signal from the second splitter and to vary the respective power levels of the first and second portions of light” (the first and second portions of light being output from a second splitter, as recited in claim 1).

The Examiner is respected to please examine Applicant's actual claims, not some incorrect paraphrase thereof that omits recited features, and adds unrecited features.

Moreover, neither the controller 44 nor the controller 40 of Cordingley is "*adapted to receive the detection signal from the second splitter and to vary the respective power levels of the first and second portions of light.*" The controllers 40 and 44 of Cordingley are merely adapted to control a polarization of a single light beam output by LCVR 24.

So, again, no combination of the AAPA and Cordingley could ever produce the system of claim 1.

Finally, the Office Action also states that it would have been obvious to modify the AAPA to include Cordingley's controller to "*increase the likelihood of successful disconnection of the link, despite slight misalignments of the link with the laser beam due to positioning errors.*"

Applicant respectfully traverses the proposed combination of the AAPA and Cordingley for at least the following reasons.

First, the proposed motivation does not make any sense. The AAPA system measures an alignment mark in a photolithography system. There is no suggestion in the AAPA of cutting any links. So why would one possibly modify the AAPA system to "*increase the likelihood of successful disconnection of the link?*" WHAT link?

Second, even if the proposed motivation made any sense in the context of the AAPA, the supposed benefits of Cordingley's system that purportedly provide the motivation to combine the references do not obtain, and could be provided, simply by adding a controller to the system of the AAPA. The benefits are provided by controlling a polarization of a light cutting a link, which requires the inclusion of the LCVR 24. Simply adding a controller to some prior art system could not possibly provide the recited benefits.

So Applicant respectfully submits that the proposed combination of references is improper, lacking any motivation in the prior art.

Accordingly, for at least these reasons, Applicant respectfully submits that claim 1 is patentable over the cited prior art.

Claims 2-10

Claims 2-10 all depend from claim 1. Neither Guerin nor Orino remedy the defects of the AAPA and Cordingley as set forth above with respect to claim 1. Therefore, claims 2-10 are all deemed patentable for at least the reasons set forth above with respect to claim 1.¹

Claim 11

Among other things, the method of claim 11 includes varying a ratio of the first and second power levels in response to an applied control signal.

Again, the Office Action concedes that no such feature is disclosed by the AAPA. However, the Office Action cites col. 7, lines 5-9 of Cordingley as supposedly disclosing a method wherein a controller “*varies the ratio of the input (1st portion of received light) to the polarization-modifying device (beam splitter) so as to cause the laser beam (2nd portion of received light) to be adjusted.*”

For similar reasons to those set forth above with respect to claim 1, Applicant respectfully submits that: (1) this is not what is stated in Cordingley at col. 7, lines 5-9; (2) this is not what is recited in claim 11; and (3) Cordingley does not disclose varying a ratio of the first and second power levels of corresponding first and second portions of light as recited in claim 11 in response to an applied control signal.

Furthermore, the Office Action also states that it would have been obvious to modify the AAPA to include Cordingley’s supposed-teachings to “*increase the likelihood of successful disconnection of the link, despite slight misalignments of the link with the laser beam due to positioning errors.*”

Applicant respectfully traverses the proposed combination of the AAPA and Cordingley for at least the reasons set forth above with respect to claim 1.

¹ The claims all being clearly patentable for the reasons set forth with respect to claim 1, Applicant does not believe there is any need to address the various individual features recited in claims 2-10, nor whether the references can be properly combined – which Applicant does not concede.

Accordingly, for at least these reasons, Applicant respectfully submits that claim 11 is patentable over the cited prior art.

Claims 12-17

Claims 12-17 all depend from claim 11. Neither Guerin nor Orino remedy the defects of the AAPA and Cordingley as set forth above with respect to claim 11. Therefore, claims 12-17 are all deemed patentable for at least the reasons set forth above with respect to claim 11.²

CONCLUSION

In view of the foregoing explanations, Applicant respectfully requests that the Examiner reconsider and reexamine the present application, allow claims 1-17, and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283-0720 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,
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² The claims all being clearly patentable for the reasons set forth with respect to claim 11, Applicant does not believe there is any need to address the various individual features recited in claims 12-17, nor whether the references can be properly combined – which Applicant does not concede.